

a passage through earlier stages of the development of instinct, such as has long been known in the development of organs.

It has often been asserted that the geometrical spiders do not repair old webs. This, however, is true only in a limited sense. The outer framework and some of the radii which have already become nearly free from transverse threads are probably always used again by *Zilla x-notata* and others. The rest is gathered up, worked into a ball with the mouth, and thrown away. If the spider removes a lifeless object from the web, and damages the latter in so doing, it certainly sometimes reproduces the destroyed portion of the framework, the radii, and the central shelter. If we interrupt a spider in the formation of its web, by tearing away a portion of it with the corresponding part of the outer framework, all will be completed up to the part that has remained uninjured. In this case the completion of the framework is especially interesting, as this unaccustomed work is not usually successfully performed at once. Here we see very distinctly how reflection comes into play. I was still better able to ascertain reflection, or, what is the same thing, actual inference, in the case of *Attus arcuatus*, Bl., when I offered it flies touched with oil of turpentine. Sometimes the spider despised the species of fly employed (*Homalomyia canicularis*, L.), whilst it attacked other insects (e. g. *Chironomus tendens*, Fab.) just as before. This spider also draws similar conclusions in those cases in which it cannot overcome insects in consequence of their chitinous armour being too hard. These it usually attacks only once, and is then for a long time forewarned. Dangerous insects, however, such as small bees, it avoids, without having seen their sting. Here therefore we have an instinctive dread. Bee-like flies are equally dreaded.

I have also attempted to give a new explanation of the secondary sexual differences of many spiders, which are to be ascribed to changes by means of sexual selection.—*Zool. Anz.* no. 180, p. 591.

*On the Classificatory Position of Hemiaster elongatus.*

*To the Editors of the Annals and Magazine of Natural History.*

GENTLEMEN,—You were good enough to admit a reply on the part of Mr. Percy Sladen and myself to a criticism of Prof. Sven Lovén, upon the classificatory position of *Hemiaster elongatus*, nobis, in your number for October last. I have received, in consequence, a very cordial reply from the Professor, in which he acknowledges that the form is not a species of *Palaostoma*, and points out how these latter forms of *Hemiaster* depart from the Mesozoic types of Desor, Wright, and Cotteau, in the extension of the madreporite and in the diminution in the number of the ovarial pores. He suggests that we should place our species in a new genus. The consideration of this proposed splitting up of the genus *Hemiaster* we must defer for a while, for it is a matter that concerns M. de Loriol also; and, moreover, we can hardly determine the propriety of the step until we have completed our description of the Echinoidea of the Tertiaries of Sind.

Yours &c.,

P. MARTIN DUNCAN.

Dec. 1, 1884.